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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,075	02/06/2004	HAOMING LI	22.1547	2074

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EXAMINER

COLLINS, GIOVANNA M

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,075

Applicant(s)

LI ET AL.

Examiner

Giovanna M. Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-12, 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13-17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040607, 20050719.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species:

Species I- adapter with two part housing and separate jacket (embodiment of figs. 4a, 4b, 5a and 5b);

Species II- adapter with housing and jacket integral (embodiment for figs. 6a and 6b).

The species are independent or distinct because the first species the jacket and the housing are separate sections.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-3,9, and 13-14 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

During a telephone conversation with Brian Galloway on 3/9/06 a provisional election was made without traverse to prosecute the invention of Species, claims 4-8, 15-17 and 20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-12 and 18-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kneisl et al. 2002/0189482.

Kneisl discloses (fig. 1) an apparatus for use in perforation a wellbore, comprising an adapter (24) adapted to receive and mount a shaped charge (10) of a selected size into a loading tubing (22), the loading tube formed to hold one or more shaped charge of a size larger than the selected size.

Referring to claim 2, Kneisl disclose an adapter comprising a holder mechanism (24) adapted to receive a first shaped charge (10) and a mounting mechanism (the shoulders in element 24) adapted to connect the first charge to a loading tube, the loading tube formed to receiving a second shaped charge having a selected size large that the first shaped change.

Referring to claim 13, Kneisl disclose a method for use in wellbore perforating operation comprising using an adapter (24) to mount a shaped charge of a selected size into a loading tube (22) of a hollow carrier perforating gun (30), where the loading tube is designed to hold one ore more shaped charges of a size larger than the selected size (paragraph 0020).

Referring to claim 14, Kneisl discloses a method for loading a small shaped charge in standard loading tube comprising inserting the shaped charge (10) into an adapter (24) and install the adapter into the loading tube (22, see paragraph 0020).

2. Claims 1-4, 9 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Lussier et al. 5,648,635

Lussier discloses (fig. 7) an apparatus for use in perforation a wellbore, comprising an adapter (102) adapted to receive and mount a shaped charge (element

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24 with rubber jacket 34) of a selected size into a loading tubing (22), the loading tube formed to hold one or more shaped charges of a size larger than the selected size.

Referring to claim 2, Lussier disclose an adapter comprising a holder mechanism (34) adapted to receive a first shaped charge (24) and a mounting mechanism (shoulder on element 102) adapted to connect the first charge to a loading tube, the loading tube formed to receiving a second shaped charge having a selected size large that the first shaped change.

Referring to claim 3, Lussier discloses the loading tube comprising a circular opening (at 112) and a jacket (102) having an outer surface formatted to engage the circular opening and an inner surface.

Referring to claims 4, 15 and 20, Lussier discloses (see fig. 2b) a housing assembly (34) having an upper section (at 34) and lower section (at 36) connectable together to define an outer surface and an inner bore, the outer surface adapted to engage the inner surface of the jacket and having a selected size approximately the same as the size of the second shaped charge and the inner bore adapted to receive the first shaped charge and a fastening mechanism (shoulders in element 102) for connection the housing assembly to the jacket to the lading tube.

Referring to claim 9, Lussier discloses (see fig. 2b) the charge comprises a casing (at 24), a primer column (at 32), an explosive charge (at 26) and a liner (at 28).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parrott et al. 4,960,171 in view of Kneisl et al. '482.

Parrott discloses (see fig. 5) an adapter comprising a holder mechanism (outer covering on outside of element 10) adapted to receive a first shaped charge (10) and a loading tube formed to receiving a second shaped charge having a selected size large that the first shaped charge. Parrott disclose not disclose a mounting mechanism a mounting mechanism adapted to connect the first charge to a loading tube. Kneisl a mounting mechanism (shoulders in jacket 24 and charge 10) adapted to mount a shaped charge to a loading tube (paragraph 0019). Kneisl teaches mounting mechanisms used on the jacket and charge helps to mount and orient the charge in the loading tubing (paragraph 0019). As it would be advantageous to ensure the charge is in the proper orientation, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus disclosed by Parrott to have the mounting mechanism in view of the teachings of Kneisl.

Referring to claim 3, Kneisl teaches the loading tube (22) has a circular opening having a predetermined diameter and a jacket having an outer surface formed to engage the circular opening and an inner surface.

Referring to claim 20, Parrot discloses a shaped charge holder (outer covering surrounding charge 10) having an outer surface and an inner bore and opening for communicating with the inner bore and the outer surface adapted to engage a jacket in a loading tube, the inner bore adapted to receive a shaped charge (10). Parrot does not disclose a fastening mechanism. Kneisl disclose a fastening mechanism (shoulders on jacket and charge 10). As it would be advantageous to ensure the charge is in the proper orientation, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus disclosed by Parrott to have the mounting mechanism in view of the teachings of Kneisl.

4. Claims 5-7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lussier '635 in view of Kneisl et al. '482.

Referring to claim 5 and 17, Lussier does not disclose a recess on the outer surface of the housing and a protruding element on the inner surface of the jacket. Kneisl teaches (see fig. 1, at 24 where jacket meets charge) a mounting mechanism with a recess on the outer surface of a housing and a protruding element on the inner surface of the jacket. This design helps to ensure the charge and the jacket stay connected. As it would be advantageous to ensure the charge and the jacket stay connected, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the mounting mechanism disclosed by Lussier to have a recess on the outer surface of the housing and a protruding element on the inner surface of the jacket in view of the teachings of Kneisl.

Referring to claim 6, Lussier discloses (see fig. 2b) the charge comprises a casing (at 24), a primer column (at 32), an explosive charge (at 26) and a liner (at 28).

Referring to claim 7, Lussier discloses an opening (at 38) formed in the upper section of the housing assembly.

5. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lussier '635 in view of Kneisl et al. '482, as applied to claim 6 and further in view of Parrot '171.

Lussier does not specifically disclose an opening in the lower section of the housing. Parrot teaches a housing with a opening in a lower section of the housing (see fig. 5, where detonating cord is located. The opening allows communication between the detonating core and the charge. As it would be advantageous to have communication between the cord and the charge it would be obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus disclosed by Lussier, as modified by Kneisl to have an opening in the lower section of the housing in view of the teachings of Parrott.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lussier '635 in view of Parrot '171.

Lussier discloses a groove (at 36) in the lower section of the housing but does not specifically disclose an opening in the lower section of the housing. Parrot teaches a housing with a opening in a lower section of the housing (see fig. 5, where detonating cord is located. The opening allows communication between the detonating core and

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the charge. As it would be advantageous to have communication between the cord and the charge it would be obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus disclosed by Lussier to have an opening in the lower section of the housing in view of the teachings of Parrott.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna M. Collins whose telephone number is 571-272-7027. The examiner can normally be reached on 6:30-3 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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